COMPOSITIONS AND METHODS FOR RAPIDLY GENERATING RECOMBINANT NUCLEIC ACID MOLECULES

ABSTRACT OF THE INVENTION

A method of generating a double stranded (ds) recombinant nucleic acid molecule covalently linked in both strands by contacting two or more ds nucleotide sequences with a topoisomerase under conditions such that both termini of at least one end of a first ds nucleotide sequence are covalently linked by the topoisomerase to both termini of at least one end of a second ds nucleotide sequence is provided. Also provided is a method for generating a ds recombinant nucleic acid molecule covalently linked in one strand, by contacting two or more ds nucleotide sequences with a type IA topoisomerase under conditions such that one strand, but not both strands, of one or both ends of a first ds nucleotide sequence are covalently linked by the topoisomerase. Compositions for performing such methods, and compositions generated from such methods also are provided, as are kits containing components useful for conveniently practicing the methods.